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Amendments to the claims:

Please replace the claims with the listing of claims below.

1. (currently amended) A method of converting a neural stem cell into a ~~ventral~~ V2 neuron which comprises introducing into the neural stem cell, ex vivo, a nucleic acid which encodes homeodomain transcription factor Nkx6.1 protein, wherein the encoded protein is expressed in the stem cell so as to thereby convert the neural stem cell into the ~~ventral~~ V2 neuron.
2. (previously presented) The method of claim 1, wherein the nucleic acid introduced into the neural stem cell integrates into the chromosomal DNA of the stem cell.
3. (original) The method of claim 1, wherein the nucleic acid is introduced by transfection or transduction.
4. - 12. (canceled)